

2021+1 ENGINEERING GAMES



RETOUR AUX SOURCES
JEUX DE GÉNIE XXXI

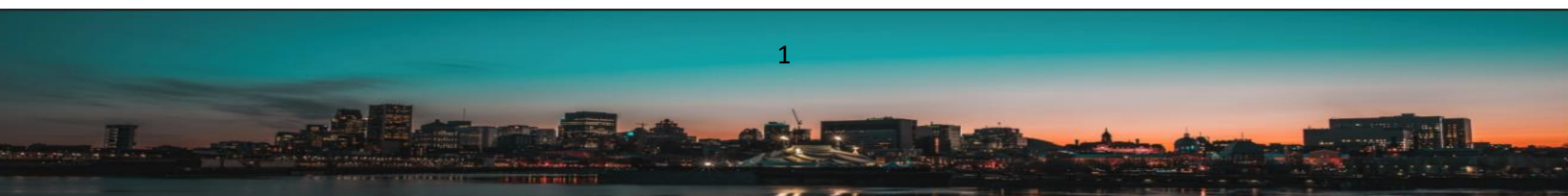
COMPETITIONS HANDBOOK

JANUARY 3 TO 7 2022

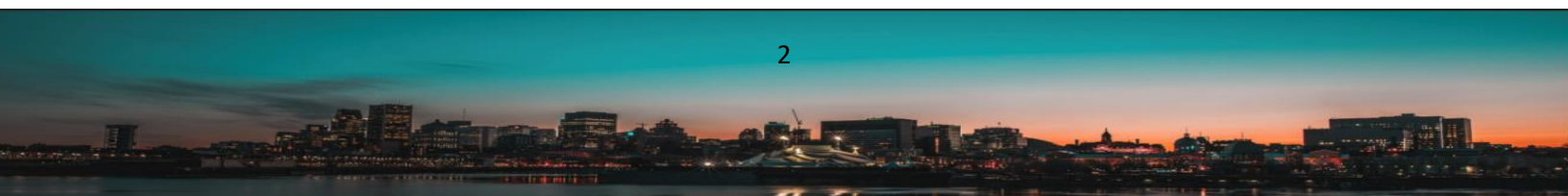
POLYTECHNIQUE MONTRÉAL

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1. A word from the Organizing Committee

Dear delegations,

It is with great pride that Polytechnique Montréal will host in January 2022 the 31st edition of the largest engineering competition in Canada: the Quebec Engineering Games. We are now talking about the 2021+1 Engineering Games.

After a long and difficult year full of changes, you have been able to adapt and continue to work hard and motivate your delegates for the next Engineering Games. We are very grateful for this and are working hard to make the best Games possible for you.

With the race to the Games now over, the 2021+1 Engineering Games Organizing Committee is pleased to provide you with the Competition Workbook which outlines the various competitions in which you will be expected to perform.

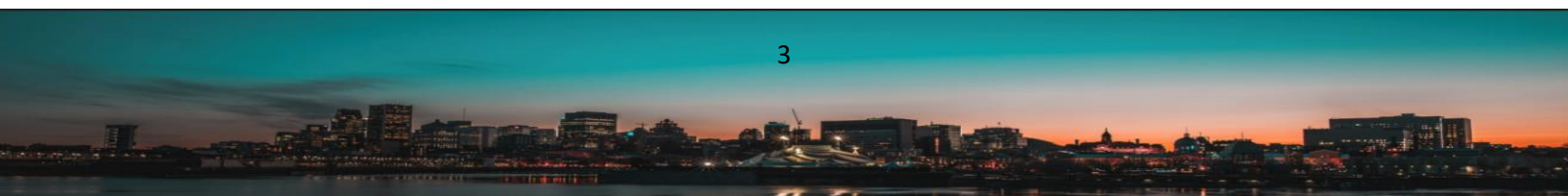
This booklet is mainly intended for all participants of each delegation. You will find the details of the academic competitions, the consulting engineering competition and the Major. You will also find the rules for the cultural competitions: debates, engineering and improvisation. Finally, the rules of the sports are presented so that you can learn them and be ready for the Engineering Games.

In this booklet, we also have the honor of introducing you to the partners of the different competitions, without whom the event would not be possible. A huge thank you to all the companies for encouraging us in this project.

We invite you to read this document carefully in order to prepare yourself as well as possible for the event and to contact us if you need any further information.

Good preparation to all!

The 2021+1 Organizing Committee team.



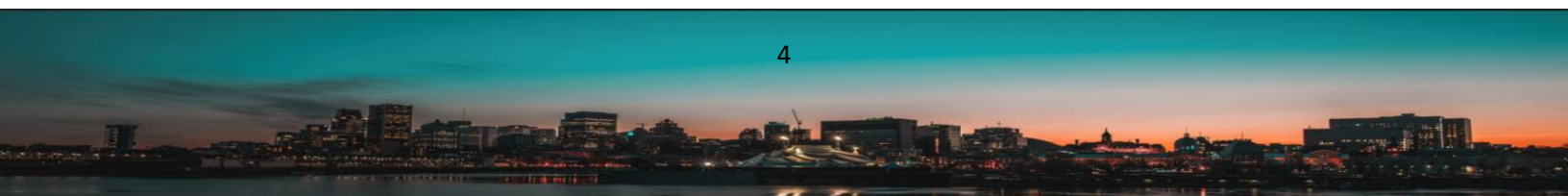
2. Academic competitions

The academic competitions each have a theoretical and a practical section. Each delegation divides its delegates into six engineering disciplines and must work together to answer both a theoretical and a practical section as a team. The academic competitions solicit both the theoretical knowledge of the engineering student, but also the more technical skills of the future engineer! Upon arrival at the examination site, the test takers will have 10 minutes to review the theoretical and practical sections of the examination and then allocate their numbers to each of the two components. However, once the test begins, there will be no transition of participants between the theory and practical sections. For example, a delegate solving the theory section will not be allowed to switch to the practical section after the 10 minutes time limit and vice versa. A limit of seven participants per discipline exam is pre-established.

The academic competitions also include the multi-disciplinary consulting engineering competition, a more theoretical case study, as well as the major, which applies the participants' skills. Note that multiple activities are taking place simultaneously. The following are the basic rules for delegate allocation:

- It is not possible for a delegate to participate in more than one academic competition.
- It is not possible for a delegate to participate in more than one cultural competition.
- A delegate participating in La Majeure may not participate in any other activity during the afternoon.
- Delegate assignments must be made prior to the start of the activity and cannot be changed afterwards.

For any exceptions or special cases, please contact presidence@jeuxdegenie.qc.ca.



2.1 Chemical Engineering

Schedule

Tuesday January 4th from 8:30 am to 12:00 pm.

Participation

Maximum of seven (7) people.

2.1.1 Chemical Engineering – Theoretical exam

The objective of this competition is to test the theoretical knowledge normally acquired during the four years of the Bachelor's degree in Chemical Engineering. This examination is open book and therefore any paper documentation is permitted. Cell phones and laptops will not be permitted for the duration of the examination.

Materials to be provided by delegations:

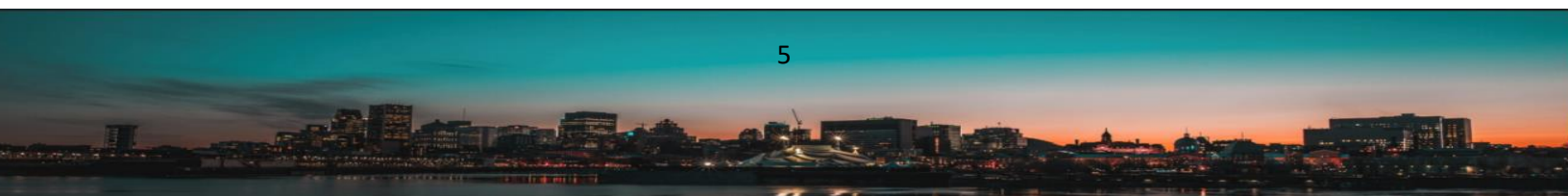
- Scrap paper, pencils, erasers, and non-programmable calculator,
- Notes and course books.

Material provided by the Organizing Committee:

Other than the examination booklet, no materials are provided by the organizing committee.

Topics to be studied:

- Process analysis and thermodynamics
 - o Material and energy balances in steady state
 - o Thermodynamic cycles
- System dynamics and process control
 - o Transient material and energy balances
 - o Ordinary differential equations
 - o Control loops



- Exchange phenomena and numerical modeling
 - Partial differential equations
 - Heat transfer
 - Fluid mechanics
 - Finite difference method
- Life engineering and reactor calculations
 - Bioreactors
 - Continuous versus batch reactors

2.1.2 Chemical Engineering – Practical exam, presented by Rio Tinto

RioTinto

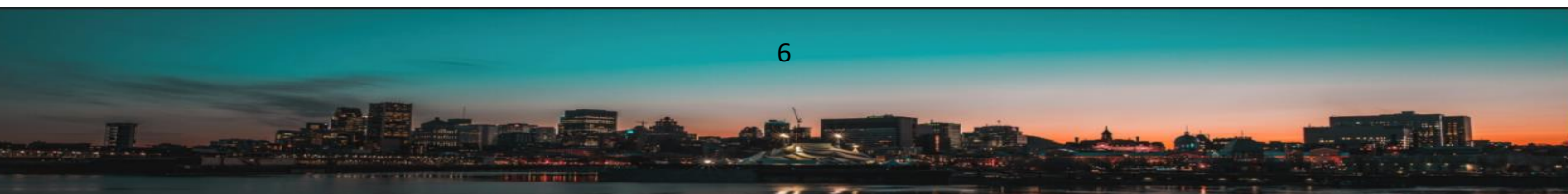
The objective of this competition is to test the technical and practical skills of the Bachelor's in Chemical Engineering student. Delegations will be given a problem, a context and a specific mandate and will have to build or find a solution and present it to a jury. Cell phones and laptops will not be permitted for the duration of the exam.

Materials to be provided by delegations:

- None.

Materials provided by the Organizing Committee:

- Computers with MATLAB Simulink and COMSOL Multiphysics.



2.2 Civil Engineering

Schedule

Tuesday January 4th from 8:30 am to 12:00 pm.

Participation

Maximum of seven (7) people, with three (3) being for the practical exam

Thank you to our general partner of the civil engineering competition: Kiewit!



2.2.1 Civil Engineering – Theoretical exam, presented by Magil



The objective of this competition is to test the theoretical knowledge normally acquired during the four years of the Bachelor of Civil Engineering. This is an open book examination and therefore any paper documentation is permitted.

Participants will be asked to answer multiple choice, short answer and long answer questions on topics related to civil engineering. Cell phones and laptops will not be permitted for the duration of the exam.

Materials to be provided by delegations:

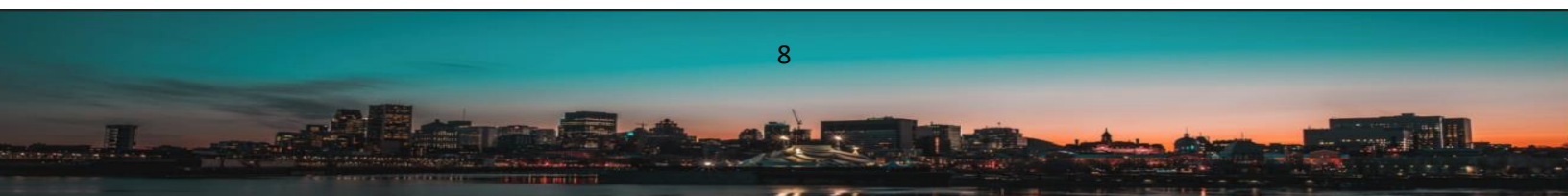
- Scrap paper, pencils, erasers, and non-programmable calculator,
- Notes and course books.

Material provided by the Organizing Committee:

- Other than the examination booklet, no materials are provided by the organizing committee.

Topics to be studied:

- Analysis and design of structures.
 - Behavioral analysis of a structure
 - Design of steel and concrete elements
 - Demonstrations of understanding of strength of materials theory and structural analysis
- Hydrology and hydraulics
 - Water balance and infiltration modeling
 - Free surface hydraulics
 - Pressure fluid mechanics and reservoir systems
- Geotechnics
 - Application of Terzaghi theory
 - Flow in soils
- Civil engineering materials
 - Concrete mixtures
 - Asphalt mixes
 - Steel
 - Wood
- Environment
 - Dilution and evolution of a pollutant in a stream or reactor
 - Raw water treatment
 - Wastewater treatment
- Transportation
 - Demand forecasting, generation, distribution and modal split



2.2.2 Civil Engineering – Practical exam, presented by Sintra



The objective of this competition is to test the technical and practical skills of the Bachelor of Science in Civil Engineering student. Delegations will be given a problem, a context and a precise mandate and will have to build or find a solution and present it to a jury. Participants will have to perform laboratory tests on coherent and powdered soils to identify and characterize their properties. Participants will have to perform the required tests and calculations within the time limits imposed. Cell phones and laptops will not be allowed for the duration of the exam.

Materials to be provided by delegations:

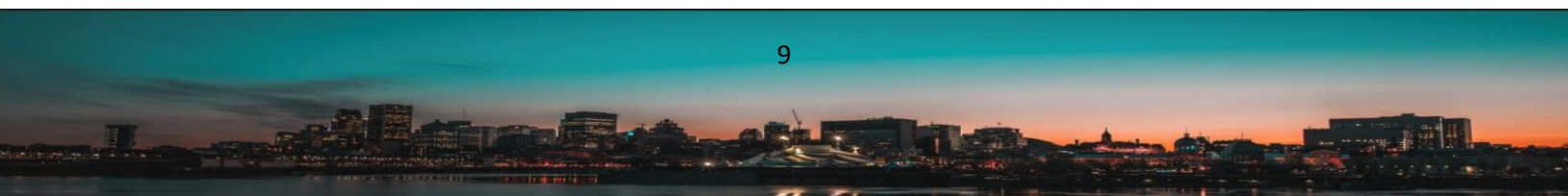
- Scrap paper, pencils, erasers, ruler, non-programmable calculator, and lab coat (optional),
- Notes and course books.

Materials provided by the Organizing Committee:

- Anything necessary to complete the competition.

Topics to be studied:

- Proctor compaction and volume calculation
 - Normal Proctor
 - ASTM D 698 - 07e1
 - BNQ 2501-250 (2005)
- Determination of shear strength and sensitivity of cohesive soils using Swedish cone test : BNQ 2501-110 (2006)
- Identification and classification of soils using standardized tests
- Any other standardized laboratory tests or interpretation of geotechnical laboratory results



2.3 Consulting Engineering, presented by Infrastructel



Schedule

Resolution: Tuesday, January 4 from 8:30 a.m. to 12:00 p.m.

Presentation: Tuesday, January 4 from 1:00 p.m. to 5:00 p.m.

Participation

Maximum of four (4) people.

Situation

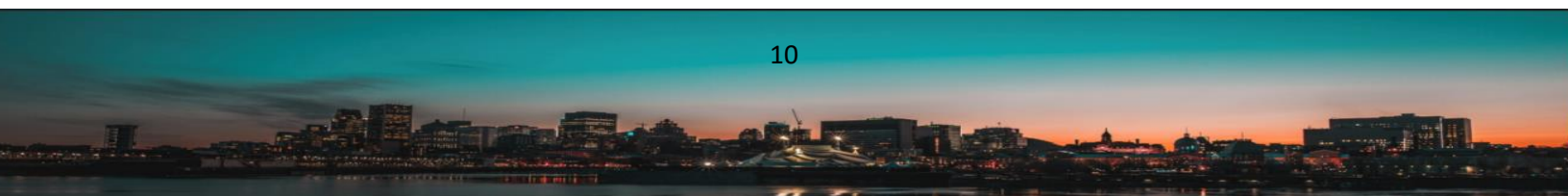
Consulting engineering allows us to find innovative solutions to the problems of modern society. The pandemic has shown us the importance of taking care of communities and giving them special attention. This competition will require you to use your creativity to respond to the needs of the City of Montreal and your public speaking skills to defend it before a committee of experts who will select the best project. This multidisciplinary competition encourages the participation of students from several engineering fields.

The themes of the event will be the requalification of a building and the design of an eco-district. Knowledge of sustainable design will be required. In addition, it is strongly recommended that delegations prepare articles, websites or any other relevant sources on eco-design, energy consumption of buildings, short distance transportation and affordable housing. Also, preparing a template for a presentation and report could save you time at the competition.

The consulting world requires a lot of communication with suppliers, other consultants and clients. Having a good network of contacts is key. As such, any mode of communication will be allowed during the event. Delegations are encouraged to develop relationships with suppliers who may be able to offer prizes or technical information related to the theme.

Materials to be provided by delegations:

- Scrap paper, pencils, erasers and whiteboard pens,
- Laptop computers,
- USB key including an oral presentation template in the delegation's colors.



Materials provided by the Organizing Committee:

- Whiteboard marker/chalk.

2.4 Electrical Engineering

Schedule

Tuesday January 4th from 7:30 am to 11:00 am.

Participation

Maximum of seven (7) people.

2.4.1 Electrical Engineering – Theoretical exam, presented by Norda Stelo



The purpose of this part of the competition is to validate the team members' knowledge of all the material taught in the Bachelor of Electrical Engineering program. This is an open book exam, which means that any documentation is allowed, as long as it is in paper format. Cell phones and computers will be put away for the duration of the examination.

Materials to be provided by delegations:

- Lecture notes and any other paper documentation covering the exam material. This exam is open book.
- Scrap paper
- Pencil case including:
 - Pencils
 - Eraser
 - Non-programmable calculator
 - Measuring and calculating tools (ruler, compass, protractor)



- Other materials

Materials provided by the Organizing Committee:

Other than the test booklet, no materials are provided by the organizing committee.

Topics to be studied:

- Elementary passive and active electrical circuits
- Logic circuits
- Power electronics
- Linear servo control
- Telecommunications
- Signal analysis
- Electronics and semiconductors
- Electromagnetic wave propagation
- Microcontrollers

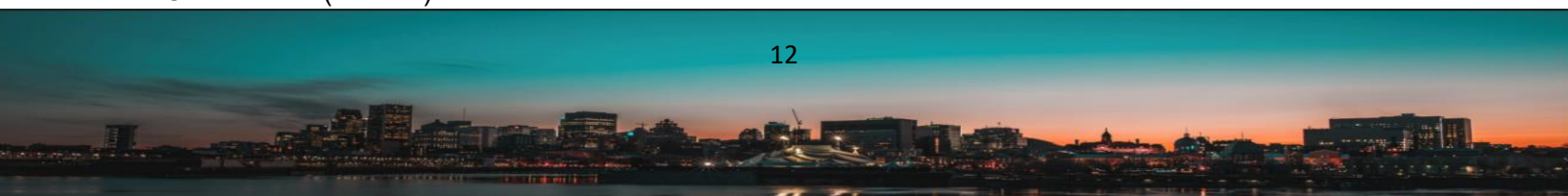
2.4.2 Electrical Engineering – Practical exam, presented by Vidéotron



The purpose of the hands-on competition is to test the participants' ability to measure and design electrical circuits. Teams will be given a challenge at the beginning of the exam and will have to put their knowledge and creativity to the test to meet its various requirements. Cell phones and laptops will not be allowed for the duration of the exam.

Materials to be provided by delegations:

- Lecture notes regarding electronic circuit topologies and related equations.
- Draft calculation sheets and pencil case
- Experimental board ("Breadboard") (avoid small boards)
- Cable cutter ("cutter")



- Wire stripper
- Flashlight
- Headphones with 3.5mm jack
- Long nose pliers
- Small flat screwdriver Trimpot style

Equipment provided by the Organizing Committee:

- 1 oscilloscope (2 channels) per team
- 1 wave generator (2 channels) per team
- 1 network analyzer (4 channels) per team
- 1 voltage source per team
- 1 multimeter
- Additional materials needed to complete the challenge

2.5 Industrial Engineering

Schedule

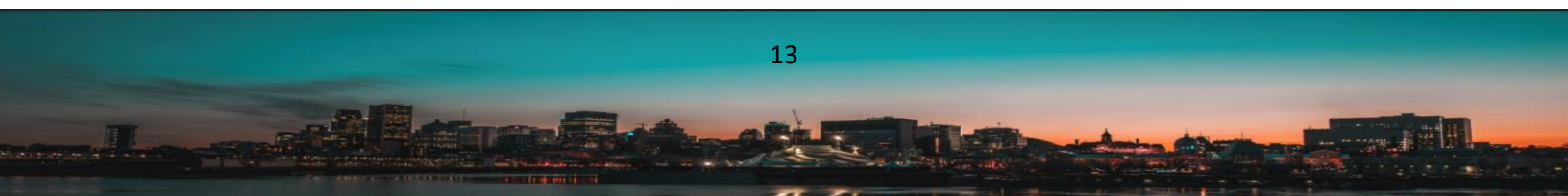
Tuesday January 4th from 8:30 am to 12:00 pm.

Participation

Maximum of seven (7) people.

2.5.1 Industrial Engineering – Theoretical exam

The objective of this competition is to test the theoretical knowledge normally acquired during the four years of the Bachelor of Industrial Engineering degree. This is an open book examination, so all paper documentation is permitted. Cell phones and laptops will not be permitted for the duration of the examination.



Materials to be provided by delegations:

- Scrap paper, pencils, erasers, and non-programmable calculator.
- Course notes and textbooks

Materials provided by the Organizing Committee:

- Any tables needed to conduct the examination

Topics to be studied:

- Continuous improvement and quality engineering
- Industrial automation
- Organizational structure and operations
- Profitability analysis and costing
- Business process reengineering
- Operations research (linear models)
- Logistics, operations management

2.5.2 Industrial Engineering – Practical exam

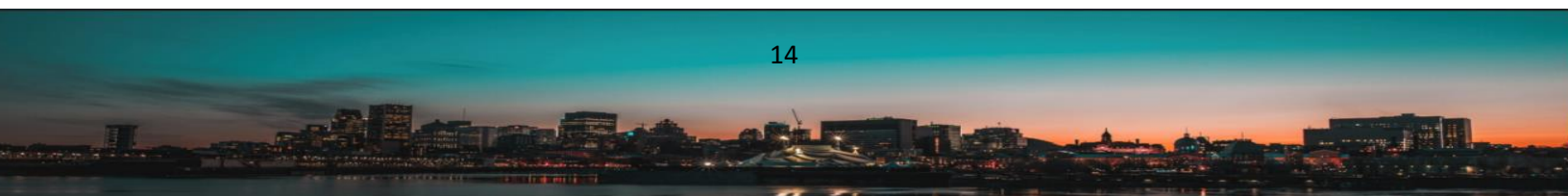
The objective of this competition is to test the technical and practical skills of students in the Bachelor of Industrial Engineering program. Delegations will be given a problem, a context and a specific mandate and will have to build or find a solution and present it to a jury. Cell phones and laptops will not be permitted for the duration of the examination.

Materials to be provided by delegations:

- USB key with an oral presentation template in the delegation's colors.
- Papers, pencils and any other desired material (optional)

Material provided by the Organizing Committee:

- Computers with internet access
- Excel



2.6 Computer Engineering

Schedule

Tuesday January 4th from 7:30 am to 11:00 am.

Participation

Maximum of seven (7) people.

Thank you to our general partner of the Computer Engineering Competition: Olympus!



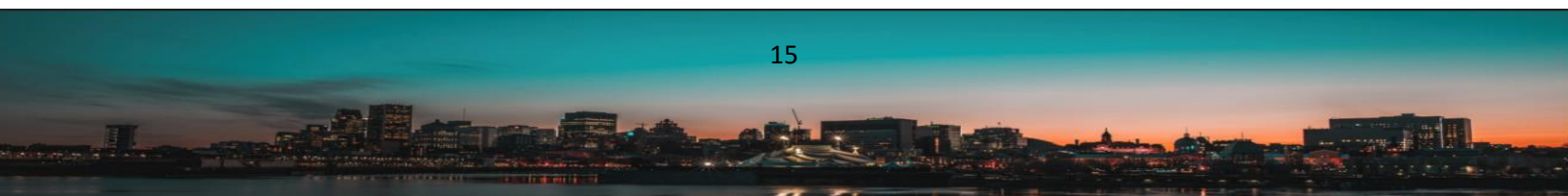
2.6.1 Computer Engineering – Theoretical exam, presented by Eddyfi



The members of each delegation have two and a half hours to complete the exam. If there are any discrepancies between the English and French versions, notify the Competition Director and a correction will be made on the spot. Please record your calculations and final answers clearly indicated on the test sheets. Cell phones and laptops will not be allowed during the exam.

Materials to be provided by delegations:

- Non-programmable scientific calculator
- Pencil
- Eraser
- Ruler and other office supplies
- Paper



Materials provided by the organizing committee:

Other than the test booklet, no materials are provided by the organizing committee.

Topics to be studied:

- Procedural and object-oriented programming
- Logic of digital systems
- Data structure and algorithms
- Computer networks
- Databases
- Distributed systems and cloud computing
- Software engineering
- Computer security
- Image analysis, compression and computer vision
- Artificial intelligence

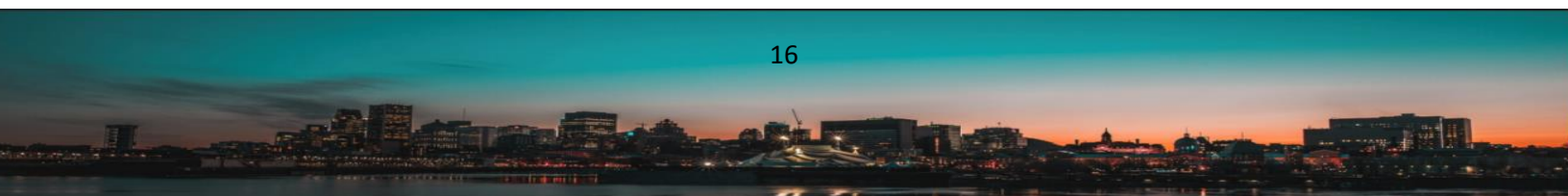
2.6.2 Computer Engineering – Practical exam, presented by Croesus



Through the practical exam, delegates will be required to demonstrate their technical skills in the computer and software field. The practical exam will take the form of multiple problems and technical questions that must be solved by the delegates in the time available. Cell phones and laptops will not be permitted for the duration of the exam.

Materials to be provided by delegations:

- Paper
- Pencil
- Eraser



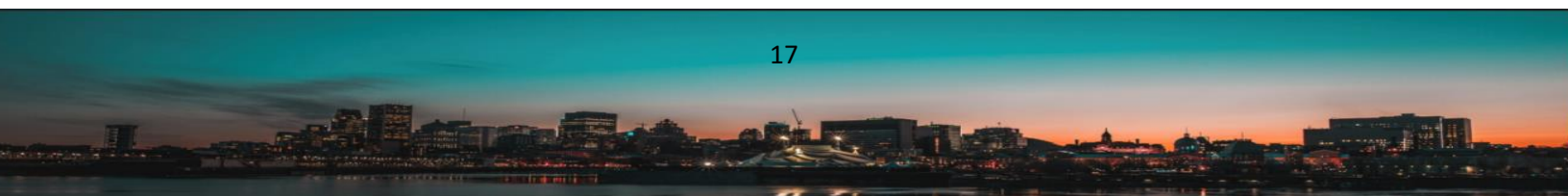
- Calculator
- Personal computer per participant with the following technologies installed.
 - NodeJS
 - Docker
 - C++
 - C
 - Python
 - Git
 - Bash
 - Latex

Materials provided by the Organizing Committee:

- Computer with internet access on Windows environment (if needed)

Topics to be studied:

- Computer security
- Algorithm and data structure
- Generic programming
- Parallel programming
- DevOps
- Artificial intelligence
- Decentralized programming (web3.0)
- Software engineering



2.7 Mechanical Engineering

Schedule

Tuesday January 4th from 7:30 am to 11:00 am.

Participation

Maximum of seven (7) people.

2.7.1 Mechanical Engineering – Theoretical exam, presented by Bombardier

BOMBARDIER

The objective of this competition is to test the theoretical knowledge normally acquired during the four years of the bachelor's degree in mechanical engineering. This is an open-book examination and therefore any paper documentation is permitted. Cell phones and laptops will not be permitted for the duration of the examination.

Materials to be provided by delegations:

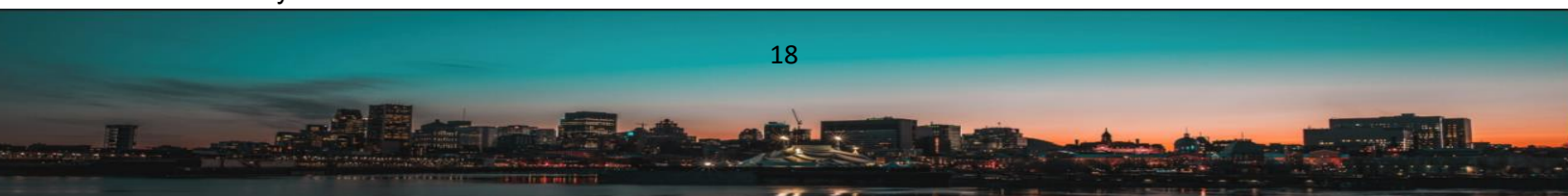
- Scrap paper, pencils, erasers, and non-programmable calculator.
- Course notes and textbooks

Material provided by the Organizing Committee:

Other than the examination booklet, no materials are provided by the organizing committee.

Topics to be studied:

- Strength of materials
- Fluid mechanics
- Rigid body mechanics
- Heat transfer
- Thermodynamics



- Vibration
- Materials

2.7.2 Mechanical Engineering – Practical exam

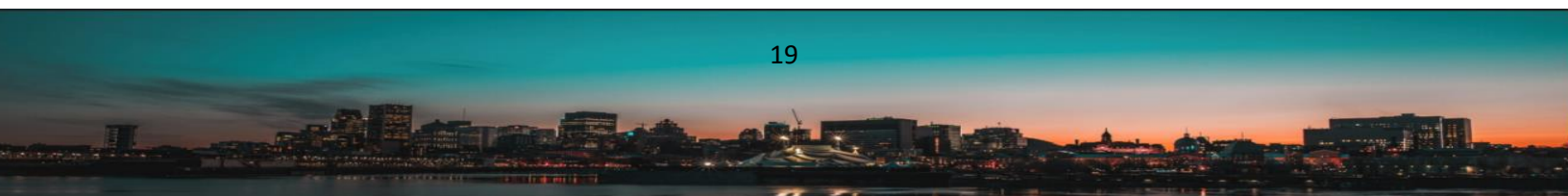
The objective of this competition is to test the technical and practical skills of students in the Bachelor of Mechanical Engineering program. Delegations will be given a problem, a context and a specific mandate and will have to build or find a solution and present it to a jury. Cell phones and laptops will not be permitted for the duration of the exam.

Materials to be provided by delegations:

- Non-programmable calculator, scratch paper and pencils
- Ruler and other measuring instruments
- Hot glue gun and hot glue sticks
- Scissors
- Pliers and wire cutters
- Exacto and cutting mat
- Small vise or clamp
- Small hammer
- Soldering iron or iron
- Safety glasses.

Materials provided by the Organizing Committee:

- All items needed for the competition.



2.8 The Majeure, presented by Eurovia



Description

The major is a robotics lightning competition designed to test the knowledge acquired in different engineering disciplines, namely mechanics, electronics and embedded computing. During this event, the team's ability to optimize, to demonstrate their ingenuity, to work together to solve complex problems and to present their solutions will be evaluated.

Schedule

Tuesday, January 4th from 12:00 to 18:30.

Participation

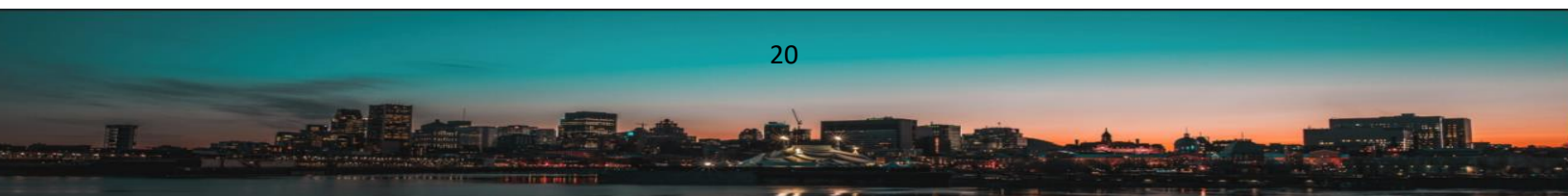
Maximum of six (6) people. The team should ideally be composed of delegates with experience in the following disciplines:

- Electrical engineering
- Software and computer engineering
- Mechanical engineering

The Organizing Committee recommends the formation of a team consisting of a minimum of one member from each of the above listed engineering disciplines.

Situation

Participants will have a total of five hours to solve a multidisciplinary problem, design the solution, and then build the solution in order to present it to a jury and test it. This competition will involve theoretical and practical knowledge of the three disciplines mentioned above.



Materials to be provided by delegations:

- Scrap paper, pencils and erasers
- Soldering iron with tin wire
- Hot glue gun with glue sticks
- Laptop with the following software: PowerPoint, Arduino IDE
- All tools deemed necessary to design an electronic and mechanical prototype (wire stripper, screwdriver, exacto, cutter, drill, etc.)
- Safety glasses (one pair per person)

Materials provided by the Organizing Committee:

- All items needed for the competition.
- Work space

Arduino software:

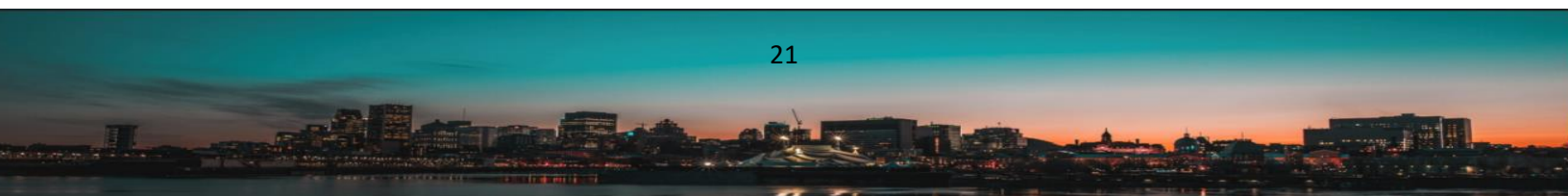
Please download to your computer the Arduino IDE available via the following web link (<https://www.arduino.cc/en/Main/Software>) and any other software deemed necessary for Arduino embedded programming.

3. Sociocultural Competitions

3.1 Debates

Schedule

Information period: NO INFORMATION PERIOD WILL BE MADE BEFORE THE DEBATES. IF QUESTIONS ARE REQUIRED, CONTACT THE COMPETITION DIRECTOR AT LEAST 12 HOURS PRIOR TO THE COMPETITION DAY. NO QUESTIONS WILL BE ANSWERED WITHIN 12 HOURS OF THE COMPETITION.



Qualifying: Tuesday, January 4, 1:00 p.m. to 5:30 p.m.

Finals: Thursday, January 6th from 7:30 am to 11:00 am.

Participation

Maximum of one team per school. Each team is composed of two people.

General

Debate debates come in many forms. Some formats are strict and fussy, others are more open and accessible to the general public. In an engineering context where most debates will take place in an informal and open manner, some flexibility is brought to the structure of the debate competition. The debates here consist of the application of analytical, popularization, and argumentation techniques in a context that is understandable to any individual from the engineering community and comes from very quick thinking and criticism. Since the goal is to evaluate the ability to reason quickly and to demonstrate an outstanding sense of repartee, the participants have only a very short preparation time between learning about the subject and the actual debate.

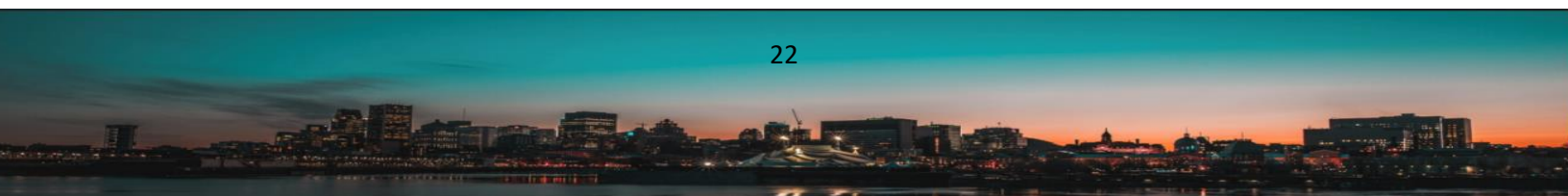
Participants will be evaluated on the relevance of their arguments, the clarity of their ideas, their repartee, the neatness and professionalism of their presentation, their ingenuity, their originality, the structure of their arguments and their eloquence. The debate will be between two teams, the proposal and the opposition. This document will therefore cover the logistics of the competition, the content - such as process, procedural points, decorum and evaluation - and the place of debate within the Genius Games. The time allowed for the preparation of the argument has been increased to four minutes this year.

Materials Allowed

Support materials such as paper, pencils and stopwatches are permitted at the discretion of the chairperson and judges. The use of materials not available to all debaters is prohibited and may result in a penalty up to and including disqualification.

Language

Resolutions will be presented in Canada's two official languages: English and French. Each participant may choose to speak in the language of his/her choice but must keep to that language throughout his/her speech. It is the responsibility of the participants to understand both languages. The organizing committee will ensure that the judges and the chairperson are able to understand both languages. In



addition, each team will have the right to request a translation from the chairperson 1) at the end of the re-definition of the motion, and 2) when asked a question. No other translations will be done by the chair. The time required for translation will not be taken into account by the person in charge of the timekeeper.

Organization:

Competition Director

The Competition Director is responsible for the entire organization of the debate competition. The director appoints the chairpersons, judges and timekeepers. He/she drafts all debate proposals with the chairpersons and sets up the tournament format and schedule. All final decisions regarding the competition itself rest with him/her, but he/she cannot in any way play a decisive role in the outcome of a debate. In addition, it is imperative that the director have credible experience in debate.

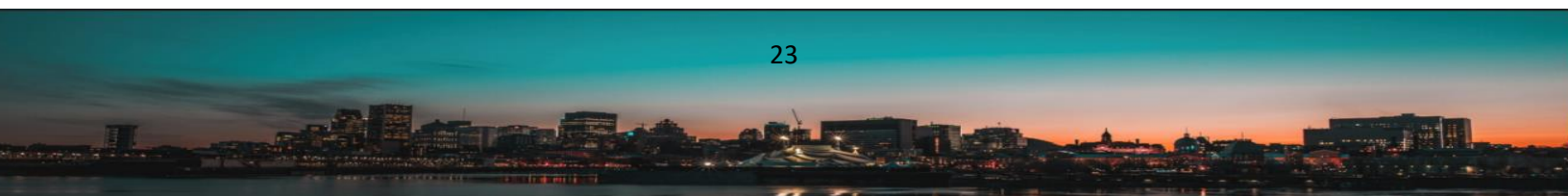
Chairperson

The chairperson is the person responsible for interpreting and applying the debate procedures. He or she must be an impartial arbiter and ensure that the judges have a clear understanding of the rules of debate. The chair is responsible for maintaining decorum and the rules of debate. He/she grants speaking rights and enforces time constraints. In addition, he/she is responsible for ruling on procedural points requested by the debaters. It is important to note that the Chair never brings a procedural item on her/his own initiative. Therefore, procedural points not raised by the debaters will not be included in the judges' assessment of the debate.

Any decision made by the chair is final and cannot be appealed.

Judges

An odd number of judges is required to evaluate the argument, communication skills and teamwork of the competitors. Judges are required to have general knowledge at the level of the average engineering student but are not required to have technical knowledge related to the debate topics. It is preferable, however, that judges have some prior debate experience, as it will be their responsibility to decide which team wins. The credibility of the competition depends on the quality of their judging. The judges will follow the scoring grid provided below.



Timekeeper

The timekeeper is responsible for ensuring that competitors respect the time allotted to them. He/she will notify the debaters of the time remaining by hand signals and notify the chair of the time remaining. It is important to note that under no circumstances will the timekeeper interfere with the debate. It is the responsibility of the Chair to enforce the time indicated by the timekeeper.

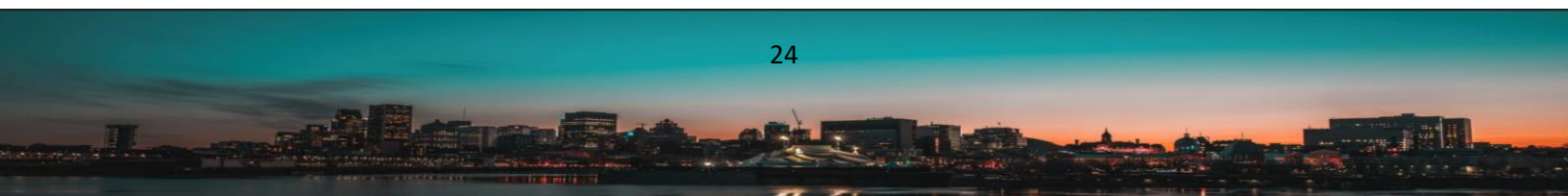
Signals from the timekeeper during debate:

When 30 seconds have elapsed, he/she will raise an open hand to indicate the beginning of the question period;

When 1 minute has elapsed (and therefore only 1 minute remains in the speech), he/she will raise his/her index finger to indicate the time remaining;

When there are only 30 seconds left in the speech, he/she will raise his/her closed fist to indicate the end of the question period;

When there are only 15 seconds left in the speech, he/she will bring his/her arms to a 90-degree angle and gradually lower his/her vertical arm like a dial hand. When his/her arms become confused, the speaking time is over. If a debater knocks on the table during this 15 second period, the debater is given an additional 15 second "grace period". The timekeeper will then repeat the same procedure during the last 15 seconds of this period.



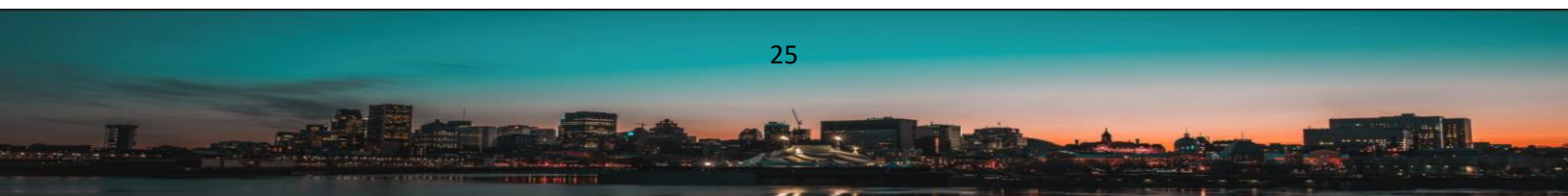
Rules and elements of the debate

Elements of the debate

- One team will represent the proposal, the other will represent the opposition. These positions are drawn at random before the motion is revealed, so that the topic does not influence the teams' positions.
- A plan of argument must be stated by the first speaker of each team during his/her opening speech. All the elements in the argument plan must be brought forward. It is not possible to add arguments that are not in the original plan.
- All of a team's arguments must be made in their first two speeches. Parties may not introduce a new argument in their conclusion. Opening a new argument that the opposing party will never have a chance to respond to is a serious breach of the spirit of debate. Teams are, however, free to bring in new examples and illustrations or to refute and reconstruct the arguments brought in. However, it is possible to bring a new element if and only if it amplifies or directly opposes an idea previously expressed.
- Each team should ask at least one question to the opposing team during a debate. Questions may not be asked in the first 30 seconds or the last 30 seconds of a speech and must not take more than 15 seconds, otherwise the chair will cut the speaker off and the debate will continue without the question.

Decorum

- At all times, speakers must address the Chair.
- Debaters owe courtesy and respect to the judges and the chairperson as well as to their opponents. It is not discourteous for a speaker to describe the confusion, error, sloppiness, inadequacy or poor judgment of the opposing team, as long as such remarks do not involve profanity, swearing, abusive or gratuitous characterizations, expressions of a discriminatory nature, or attacks on a person's integrity or appearance.
- Team members who wish to communicate with each other should preferably do so in writing. They may, however, occasionally exchange a few whispers if these are not intended to disturb the current oratory. However, it should be noted that brief interjections used sparingly are permitted; these should be intended to add life to the debate, without being disrespectful to the opponent.
- Participants can and should ask questions of opposing speakers. To indicate their willingness to ask a question, the participant must stand up and wait for the speaker to grant them the right to ask their



question with a hand gesture. If the speaker who has the right to speak does not want to take the question, he/she should indicate this with a hand signal or a verbal response to that effect. It should be noted that on the third attempt at a question, the speaker is obliged to accept the question. The Chair will ensure that this rule is respected. Furthermore, the time taken by the question to be asked is not taken into account by the timekeeper. However, the time taken by the speaker to answer the question is taken into account by the timekeeper.

- Participants may not applaud during a debate. They may, however, show their contentment, support or joy at the expression of ideas by clapping their desk with one hand, as is the custom in parliamentary chambers, or by expressing interjections. The audience is invited to clap silently by raising their hands and shaking them.

- Physical contact between debaters of opposing teams will be limited to handshakes or other customary supportive gestures before and after the debate.

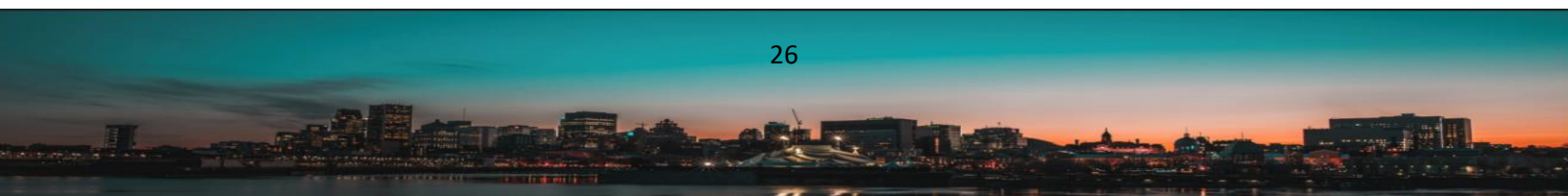
- A team clearly and unequivocally attempting to distract the opposing speaker will be subject to severe sanctions on the evaluation grid.

Procedural Points

To make a procedural error, a member of the opposing team must stand up, say "point of order" in a loud voice, wait for the chairperson to recognize him or her, and then clearly indicate the nature of the error to the chairperson. Acceptance or rejection of the point of order is the sole responsibility of the chairperson and his/her decision is final. Please note that time is stopped during a point of order and will resume when the chair restores the right to speak.

The following is a list of procedural points allowed:

- Case of truism: This procedural point is undoubtedly one that can overturn a debate. A case of truism occurs when the proposition is redefined in such a way that a debate cannot take place because it states a fact or a tautology. To raise this procedural point, the team that wants to make it must wait until the speaker who committed the truism has finished his or her speech and then report it to the chair. If accepted, the case of truism will give the opposing team the power to redefine the proposal and thus give the opportunity to totally invalidate the speech already made. If it is rejected, the debate will continue with the redefinition made.



- Specific knowledge (in the redefinition): In order to ensure a quality debate and to give all debaters a chance, the debate must be on a topic that is accessible to the average engineering student. Therefore, if an aspect of the redefinition involves knowledge that the average engineering student does not possess, there is a specific knowledge case. To raise this procedural point, the team that wants to make it must wait until the end of the speech of the speaker who committed the specific knowledge and then report it to the chair. If accepted, it will empower the opposing team to redefine the terms of the specific knowledge and thus give the opportunity to invalidate that portion of the redefinition. If it is rejected, the debate will continue with the redefinition made.

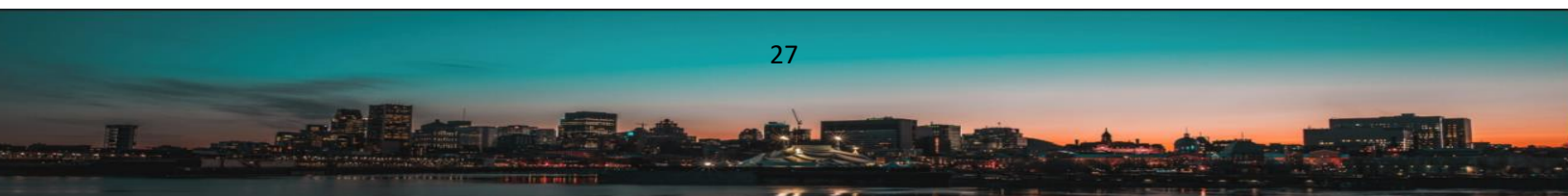
- Specific knowledge (in the argument): If an aspect of an argument calls for knowledge that the average engineering student does not possess, there is a case of specific knowledge. To raise this procedural point, the team must report it immediately to the chair, who will stop the debate. If the point is accepted, the chair will ask the offending speaker to withdraw or modify the argument and ask the judges to disregard it. If it is not accepted, the debate will continue with the argument made.

- Debaters addressing an opposing debater directly: As all debaters are required to address the Chair directly at all times, if a speaker addresses another debater directly, it is a breach of decorum. The debater wishing to make this point will do so immediately and the Chair will correct the situation if necessary.

- Misquotation: If a debater is misquoted by another speaker, he/she may notify the Chair immediately. If the point is accepted, the Chair will ask the offending speaker to withdraw or amend the quote and ask the judges to disregard the original quote. If it is refused, the debate will continue with the quote as is.

- New argument in the opening: Since the spirit of the debate involves an exchange between the two teams, it is strictly forbidden to bring a new argument on a concept not addressed during the debate in the closing speech. To raise this procedural point, the opposing team must immediately report it to the chair, who will stop the debate. If the point is accepted, the chair will ask the offending speaker to withdraw the argument and ask the judges to disregard it. If the point is not accepted, the debate will continue, considering the argument made.

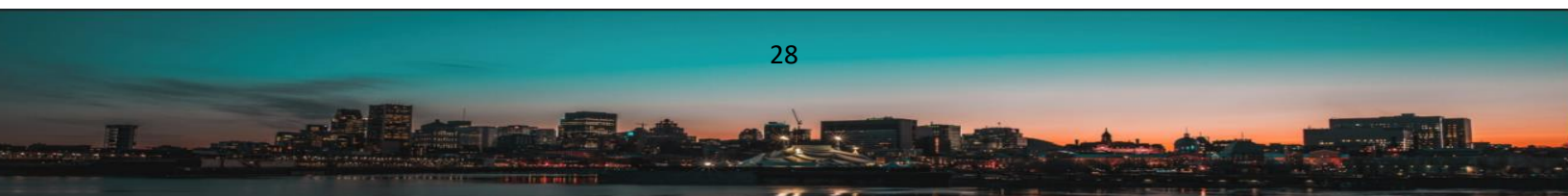
- Introduction of parts of a plan by the second speaker: The responsibility for setting up an argument plan lies with the first speaker. Thus, if a second speaker introduces a topic of argument that was not previously introduced by the first speaker, it is a foul. To raise this point of order, the opposing team must immediately report it to the chair who will stop the debate. If the point is accepted, the chair will ask the speaker to withdraw the argument and ask the judges to disregard it. If it is not accepted, the debate will continue with the argument made.



- Unprofessional or offensive behaviour: If a speaker demonstrates unprofessional behavior by being vulgar, inappropriate or simply lacking in class, there is a clear breach of decorum. In this situation, the Chair will ask the offending speaker to correct the situation, as such behaviour may result in the team being disqualified if the person refuses to comply.

Resolutions

The Competition Director will decide on the nature of the resolutions. They will touch on points on which the average engineering student should be able to defend an opinion without any preparation. Resolutions will not include truisms (self-evident truths) and will avoid the use of words of an absolute nature such as "all", "everyone" and "always". (e.g., "Let it be resolved that all engineers find math easy" is not a good resolution since there are always exceptions). Once the 2 teams have read the resolution, they will have 4 minutes to prepare for the debate. The nature of the proposals can be very serious or very silly. All resolutions and their translation will be validated by the competition director and the chairpersons before the competition.



Structure of the debate and roles**Conduct of the debate****Preparation**

Drawing of positions: < 30 seconds

Disclosure of topic: < 30 seconds

Preparation of the argument: 5 minutes

Argument

First speaker for the proposal: 2 minutes

First speaker of the opposition: 2 minutes

Second speaker of the proposal: 2 minutes

Second Opposition Speaker: 2 minutes

Conclusion

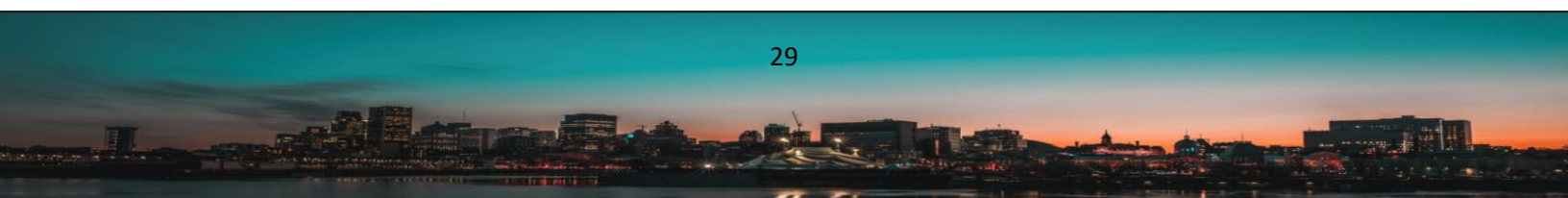
First opposition speaker: 1 minute

First speaker for the proposal: 1 minute

Judgment

Individual decision by each judge: 5 minutes

TOTAL: 20 minutes



Role of the proposal

The proposal should redefine the motion, i.e., reduce the resolution so that the debate is focused on a single major issue. It is important for the proposal to avoid turning resolutions into truisms (see section on procedural points). The proposal should also avoid debate on topics that require specific knowledge.

Advantages

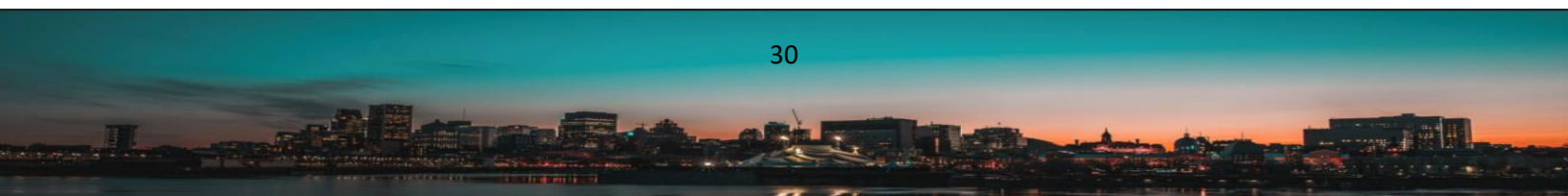
- The proposal can redefine the resolution as it sees fit, without drastically changing the meaning of the terms (e.g., a table cannot become an elephant). This redefinition is intended to hinder the preparation of the opposition.
- The proposal opens and closes the debate, giving it the first and last words. Disadvantages
- The proposal has the burden of proof. This means that they must show beyond a doubt to the judges that the proposal is better than the status quo.

1st speaker: The first speaker of the proposal opens the debate. He or she outlines the topic, makes appropriate redefinitions, outlines the plan of argument, and makes the first arguments. He or she is also the one who closes the debate.

2nd Speaker: The role of the second speaker is to refocus the debate and reinforce the position of his/her team. This person must complete the team's argumentative plan and refute the opposition's arguments.

Role of the opposition

The opposition must counter the resolution by all means. They must create reasonable doubt for the judges that the resolution is less good than the status quo.



Advantages

- The opposition does not need to demonstrate the merits of its own position, it can simply
- to destroy the merits of the opposing position. They must show that the motion has more disadvantages or fewer advantages than the status quo.
- The opposition has the time of the first speaker of the proposal to refine its argument before taking the stage.

Disadvantages

- Redefinition by the proposal team can seriously undermine the opposition's preparation.

1st speaker: The first speaker of the opposition states his or her team's position on the proposed subject. He/she must present his/her team's argumentative plan, make his/her arguments and refute the arguments already made. He or she must also close the opposition's view of the debate.

on the debate.

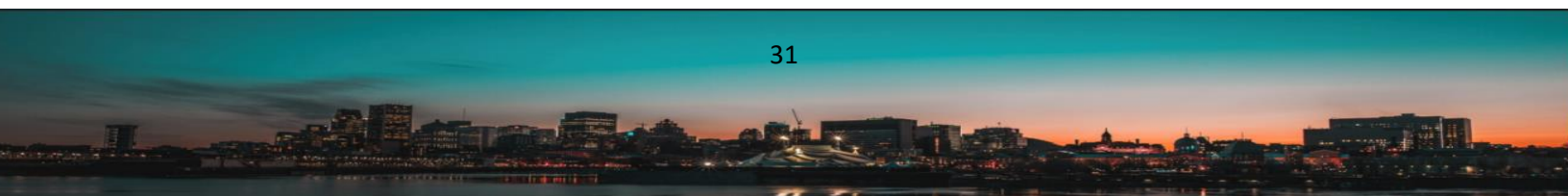
2nd speaker: The role of the second speaker is to refocus the debate and reinforce the position of his/her team. She must complete her team's argumentative plan and refute the proposal's arguments.

Competition Process:

Qualifying rounds

Introductory meeting

- Introduction of the competition director, chairpersons, judges and timers
- Review of the rule book



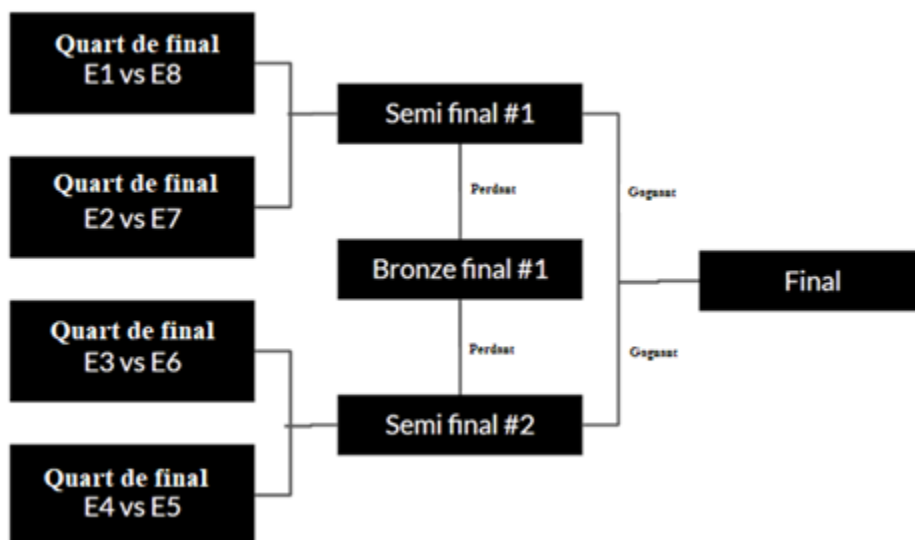
Conduct of the round

A draw will be held to select the teams that will compete. Each team will play 3 games during the qualifying rounds. Following these qualifying games, the top 8 teams will be selected to participate in the elimination rounds. The following criteria, presented in their order of priority, will be used to determine the ranking of the teams:

- Number of wins
- Number of judges in favor
- Average score
- Number of procedural points in favor

Elimination rounds

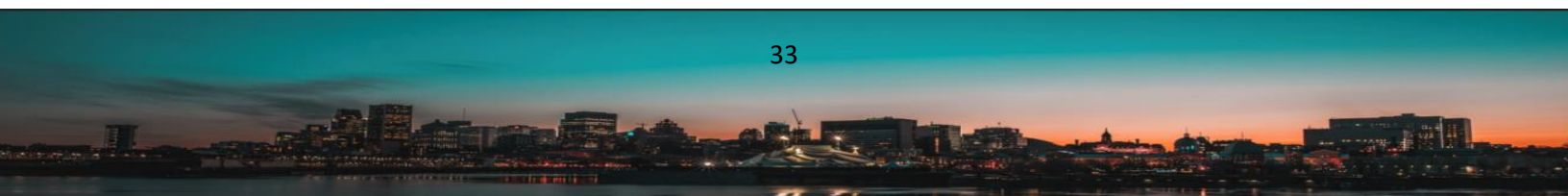
The top 8 teams will compete in the elimination rounds as follows: The order of the top four positions will be known at the banquet. Any team declining to participate will give all teams below them a chance to win a spot.



Evaluation and judgement

Judgement

The debate is judged based on which team convinces the judges best. Each judge will individually decide the winning team of the debate and give his vote to the chairperson. The chair will tally the votes and announce the winner. The judges can vote for either the proposal or the opposition and cannot vote for a tie. The verdict of the matches is final. In addition, the Chairperson and the Competition Director have no authority over the judging of the matches.



Judging Scale

The scale used by the judges to determine the winning team is presented below.

The team with the most points shall be declared the winner by the judge.

Points	Arguments/Refusal	Debate procedure	Presentation
4	<ul style="list-style-type: none"> Well thought out argument and supports the debater's position well Clearly follows established definitions Refusals are well constructed and relevant 	<ul style="list-style-type: none"> The debater addresses the chairperson at all times Demonstrates a thorough understanding of their roles in the debate Uses questions and interpellations effectively 	<ul style="list-style-type: none"> The debater is extremely effective at keeping the audience engaged by using: <ul style="list-style-type: none"> Appropriately useful gestures and movement Eye contact with the audience An enthusiastic and varied tone of voice All comments, body language and responses were respectful and appropriate Good teamwork is demonstrated
3	<ul style="list-style-type: none"> Arguments correctly think and support the debater's position Follows established definitions Refusals are correctly constituted and relevant 	<ul style="list-style-type: none"> Debater addresses the presiding officer Demonstrates an understanding of their roles in the debate Uses questions and interpellations 	<ul style="list-style-type: none"> The debater is effective in keeping the audience engaged by using: <ul style="list-style-type: none"> Appropriately useful gestures and movement Eye contact with the audience An enthusiastic and varied tone of voice Most comments, body language and responses were respectful and appropriate Team cohesion is demonstrated
2	<ul style="list-style-type: none"> Arguments correctly think and support the debater's position Follows established definitions Inconsistencies are noticed Refusals are correctly constituted and relevant 	<ul style="list-style-type: none"> Debater repeatedly addresses their opponents Demonstrates little or no understanding of their roles in the debate Does not use questions and interpellations correctly 	<ul style="list-style-type: none"> The debater using little: <ul style="list-style-type: none"> Gesture and movement Eye contact with the audience Little team cohesion is demonstrated
1	<ul style="list-style-type: none"> Arguments that do not support the debater's position Does not follow established definitions Inconsistencies are noticed Refusals are missing or impertinent 	<ul style="list-style-type: none"> Debater does not address the presiding officer Does not demonstrate an understanding of their roles in the debate Does not use questions and interpellations 	<ul style="list-style-type: none"> The debater using none: <ul style="list-style-type: none"> Gesture and movement Eye contact with the audience All comments, body language and responses were disrespectful and inappropriate No team cohesion demonstrated
	/4	/4	/4
			/12
Final Score	Proposition Score: Points 1 st speaker: ____/12 + Points 2 nd speaker: ____/12 + Point from procedure points: ____ = Total: ____		Opposition Score: Points 1 st speaker: ____/12 + Points 2 nd speaker: ____/12 + Point from procedure points: ____ = Total: ____

3.2 Trivia, presented by Génie Inc.

Génie-inc

Schedule

Qualifications: Tuesday, January 4th from 1:00 p.m. to 5:00 p.m.

Final: Tuesday, January 4th from 17:00-17:30

Participation

Maximum of four (4) people.

Situation

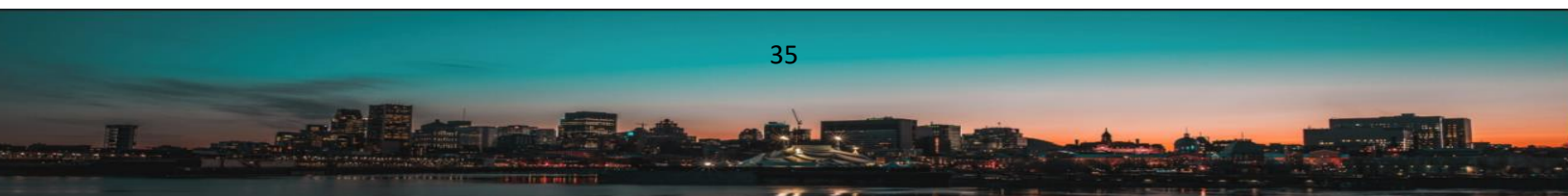
The Trivia competition is largely inspired by the Radio-Canada game show where two teams of four players try to answer various general knowledge questions as quickly as possible. Combining general knowledge, culture and speed of the thumb, this activity continues today especially at the school level, but also through many civil leagues. This competition will take place over half a day, where each match will last a maximum of 15 minutes with a 10 minute break between each match to allow for movement and team changes.

Composition of the teams

Each delegation must provide a team of four (4) members. One of the members will act as team captain. This person must be present at the captains' meeting before the beginning of the tournament and will be the one who can contest the validity of a response (see rules).

Conduct of the competition

The competition will include a preliminary phase where teams will be separated into two groups to establish an initial ranking. Thereafter, the top two (2) teams from each group will advance to the elimination round.



Preliminary round “round robin”

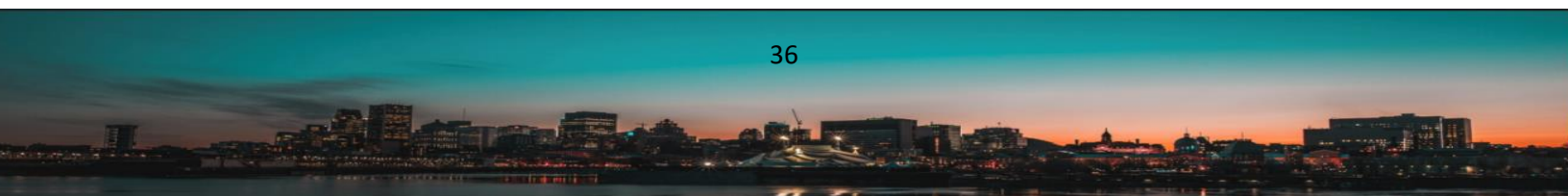
A draw will be held to select the teams in each group. There are two (2) groups of six (6) teams each. Each team will play five (5) games during this stage in a round-robin format. At the end of the preliminary round, the top two teams from each group will advance to the elimination round. The ranking of the teams will be based on their cumulative score. In the event of a tie, the number of wins will be taken into consideration.

Playoff Round

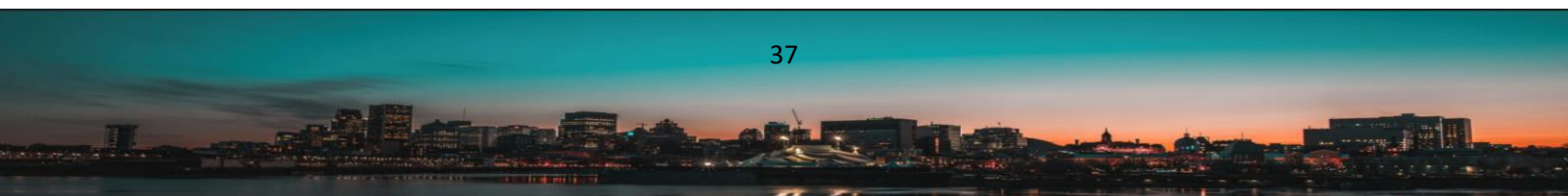
The playoff round begins directly with the semi-finals, where the first team from each group plays the second team from the other group. The two (2) losing teams from the semi-finals will play each other in the bronze final and the two winning teams will play each other in the grand final.

Regulations

1. Number of players: If a team presents less than 3 players before the beginning of the match, it loses the match by forfeit. For teams with 3 members, the question involving the absent member is addressed to the opponent only.
2. Late: A 10-minute break is allowed between each game for travel and team changes. After this time, late teams lose by forfeit.
3. Substitution or addition of a member: No substitution or addition of a member to the team is allowed after the start of the game.
4. Identification of team members: Each team member must legibly write his or her first name and the first letter of his or her last name(s) (e.g., "Camille L.") on the support provided for identification.
5. Penalty for wrong early answer (-10 point rule): For all questions (unless mentioned), a person who ventures to say an answer before the end of the question statement and gives a wrong answer will earn a 10 point penalty imposed on his/her team.



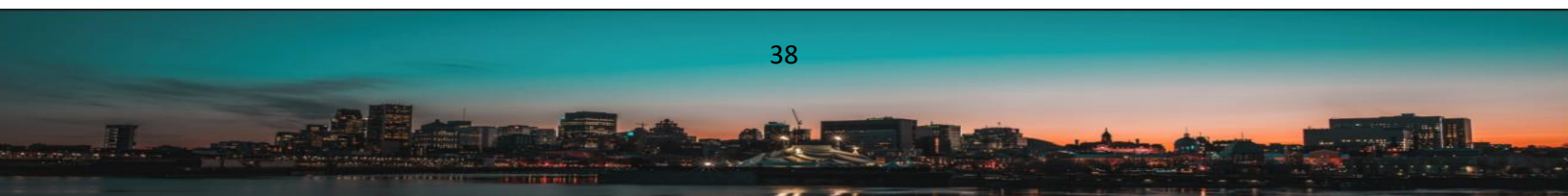
6. Right to speak: The smooth running of the game and "good sportsmanship" require that members wait until they are named before answering. However, a response from someone who has not waited to be named by the player will not be denied. Conversely, a person has the right to wait to be named by the reader before responding. If the person responding is not the same as the person entitled to speak, the response is refused and a reply is permitted (if applicable).
7. Right to consult: In questions with the right to consult, as soon as a player presses the trigger, all consultation is forbidden.
8. Answer: If a person gives more than one answer, only the first answer will be considered, even if it is incomplete. Also, if a person surrounds the correct answer with incorrect elements, the answer will be refused.
9. Names of persons: When the answer is a person, the last name only is accepted as an answer, unless otherwise specified. If the player ventures to give a first name and it is wrong, the answer is rejected.
10. Language of the game: The questions are all asked in French and accompanied by a translation of the technical terms in English and the answers can be given in French or in English.
11. Enumeration: When more than one item is required in the answer, points will be awarded only if all items have been given correctly.
12. Materials Allowed: For all questions, players are allowed to use blank paper and a pencil, which will be made available to them.
13. Coaches and the Public: No coach or member of the public may communicate with the players during a game. If there is an answer blown by the public, the question will be nullified and replaced.
14. Tiebreaker and Overtime: At the end of a game, if the result is tied between the two teams, 5 "lightning" questions will be asked. If the score is still tied, more lightning questions will be asked until one team gets it right. That team will then win the match.
15. End of game: A game is a maximum of 15 minutes. The clock starts at the time indicated on the schedule. After 15 minutes, the game ends and the points are scored as they are.



16. Disputes: In the event of a dispute over the conduct of a match (missed reply, wrong player answering a question, blown answer, etc.), the judge of the board will have the final say. The captain will then be responsible for passing on the grievances to the judge during the game, in a respectful manner. The verdict will be given immediately by the judge. In the event of a dispute over the validity of an answer, the captain may pass on the dispute to the person in charge of the competition. To do so, the captains of both teams must come forward to confirm the facts and be informed of the result. Any challenge not related to the validity of the questionnaire will be rejected at this stage.

Types of questions

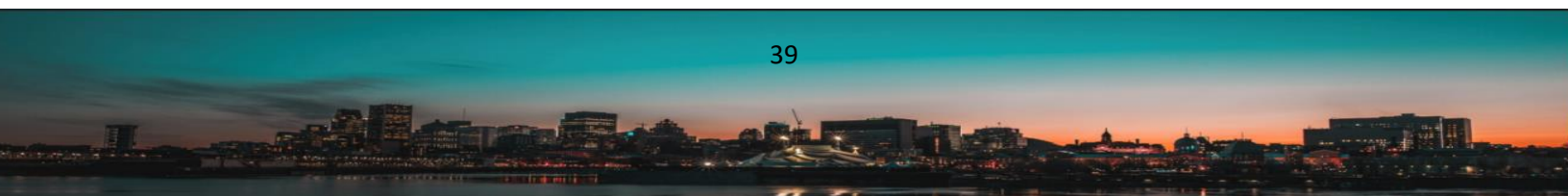
1. Set the stage: To set the mood, introduce the players and test the triggers. The reader asks each player an individual question in turn. Before answering, the respondent must press the trigger. No consultation or right of reply. Five (5) points for each correct answer. The ten (10) point penalty does not apply.
2. Face-off: Speed questions to one player on each team (player #1 vs. player #1 and so on). The first person to get the right answer gets twenty (20) points if he/she gives the right answer. If he/she misses, the reply is given to his/her opponent for ten (10) points. The 10-point penalty applies, no consultation.
3. Collective: Questions asked to both teams, without consultation. The first player to press his/her trigger has the right to speak. If the answer is wrong or if the player cannot answer, the right to reply is given to the other team, still without consultation. A correct answer is worth ten (10) points. The penalty of ten (10) points applies.
4. Identification by clue: A series of three (3) questions with consultation to identify a person, a thing, a place, an event, etc. Each question provides a clue, in order of importance. Each question provides a clue, in descending order of difficulty. If a person gives the answer after the first clue, their team gets forty (40) points. The correct answer is worth twenty (20) points after the second clue and ten (10) points after the last clue. The right of reply is possible at each clue, but a team can only give one answer per clue. The penalty of 10 points applies.
5. Quick questions: Short collective questions asked quickly. A correct answer when the question is cut off is worth 20 points, if the question is finished it is worth 10 points. The 10-point penalty applies, no consultation.



Match format

The match format is for reference only and is subject to change.

Thème	Type de questions	Nombre de questions	Points/Question	Points possibles (Par équipes)
Variétés	Mise au jeu	8 (4/équipe)	5	20
Thème mobile	Vis-à-vis	4	20 ou 10	80
Histoire	Collectives	5	10	50
Arts & littérature	Collectives	5	10	50
Géographie et Tourisme	Collectives	5	10	50
Sciences et Technologies	Collectives	5	10	50
Sport	Collectives	5	10	50
Thème variable	Identification par indices	3 indices	40, 20 ou 10	40
Variétés	Éclairs	10	20 ou 10	200
Variétés (Remplacement)	Éclairs (Remplacement)	10	10	-
Total	-	50	-	590



3.3 Improvisation, presented by GBI



Schedule

Qualifications: Tuesday January 4th from 1:00 pm to 5:30 pm.

Finals: Wednesday January 5th from 7:30 pm to 10:30 pm.

Participation

Maximum of four (4) people.

Summary

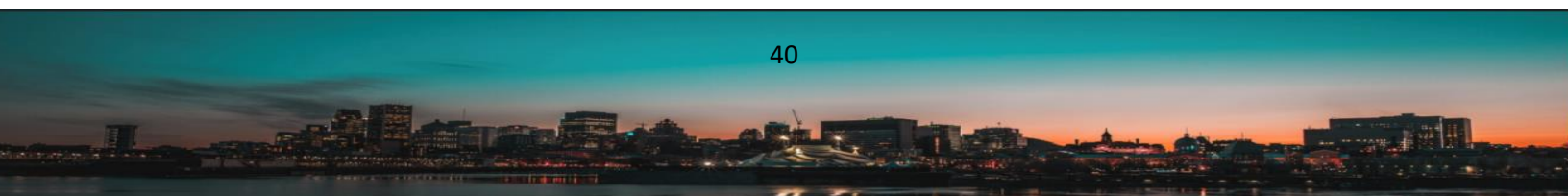
The improvisation match was invented in Quebec in the late 1970s by the duo Robert Gravel and Yvon Leduc. It brings together two teams seeking to give an improvised show in a concept inspired by hockey.

Duration

- The qualifying matches last 15 minutes and include 3 improvisations.
- The semi-finals and the bronze final last 30 minutes and include 5 improvisations.
- The final lasts 45 minutes and includes 7 improvisations.

Composition of the teams

Each team is composed of four players and should preferably have gender diversity but is not required to. A team with an incomplete roster (3 players or less) will automatically receive a major penalty for an illegal number of players at the start of the game.



Procedure

Announcement of the improvisation card

The referee reads out the improvisation card: the nature, theme, number of players, category and duration of the improvisation.

Concertation (caucus)

The players and the coach of each team have 30 seconds to confer and take their places on the ice. The referee signals the beginning of the improvisation with a whistle.

Distribution of points

Points obtained by the votes

After each improvisation, the referee asks the audience and the two judges to vote for the best improvisation. The audience vote counts as one vote (determined by the majority of the audience's votes) and each judge's vote also counts as one vote. The team with the most votes wins the point. If less than 10 spectators are present during a match, the audience vote will be replaced by the referee's vote. The referee has the authority to request a recount of the room from his line judges. No request for a recount by a team will be allowed. If there is a tie, one point will be awarded to each team.

Points obtained by penalty points

The penalized team receives one or two penalty points depending on the nature of the infraction (minor or major). The minor penalty, unlike the major penalty, does not intentionally destroy the game. The accumulation of three penalty points by a team automatically gives a point to the opposing team.

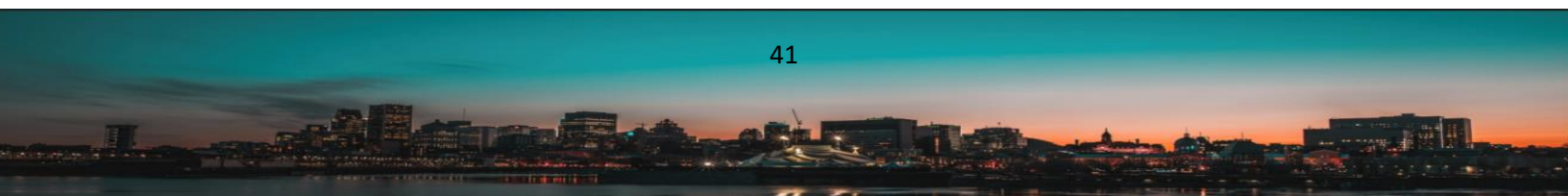
Explanations

After a penalty, the team captain has the right to ask the referee for an explanation. If the captain is penalized, he/she will be replaced by the assistant captain.

Decorum

The referee

The referee is in absolute control of the game. At any time, the referee can impose a penalty on a player or a team for any infraction that affects the quality of the game. His decisions are final.



The Captain

The captain of a team may ask the referee for an explanation of his or her decisions following the announcement of the penalties. He or she is entitled to a question and a reply. Concision and politeness are required. In case of abuse, the referee may impose an additional penalty.

The coach

A team may have a coach present on the bench. This person may be a member of the delegation or a sponsor but may not be a player who has been ejected from a game before.

The substitute player

A substitute player may accompany the team and replace a player between games.

The playing area

The playing area is delimited by the boards that form the rink. To be part of the improvisation, the player must physically enter the rink. A player who has intervened and wishes to withdraw from the game must remain inside the boards and adopt a neutral position (the small ball). For a short intervention off the ice, the player may remain on the bench.

Composition of the teams

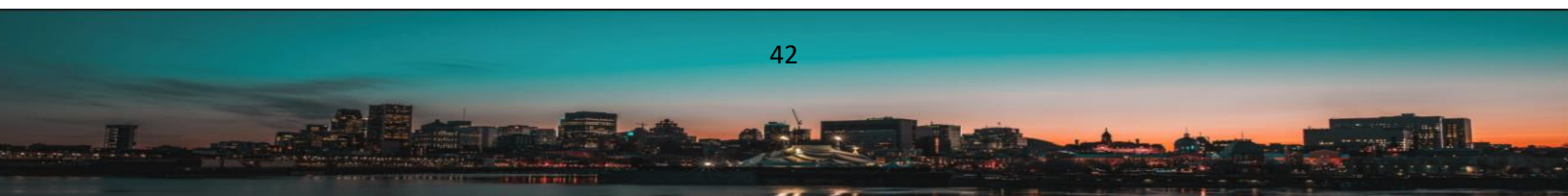
After moving to the neutral position, the player may return to the current improvisation with a character that he/she has already played during the improvisation, or with a new character. He/she cannot communicate with the players on the bench.

Communication on the bench

In mixed games, the players and the coach can communicate with each other. In a match, the team that is not playing may not communicate. An illegal procedure penalty will be given if verbal or non-verbal communication is used.

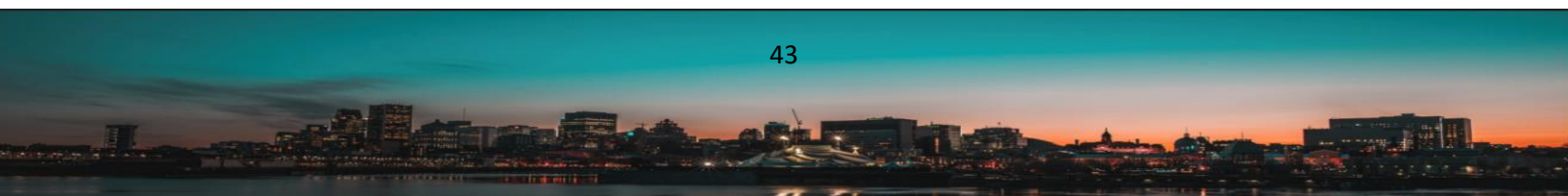
Dress code

Each player will be required to wear black pants, a non-obtrusive shirt and shoes. The shirt can represent the university or the team theme and must be the same, or at least the same color, for the entire team. It is strongly advised that hair be tied back, no jewelry/watches, and no gum chewing.



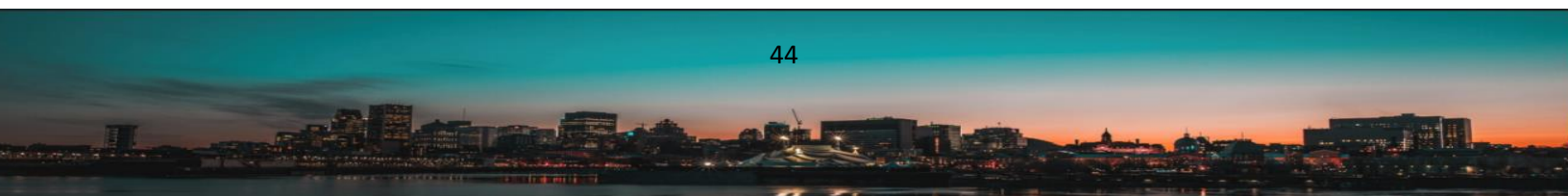
Penalties

1. Illegal accessory: A player uses an accessory other than his/her sport shoes, jogging pants, t-shirt or field hockey jersey (watch, glasses, long hair, etc.).
2. Joke-telling: A player attempts to curry favour with the audience by making jokes outside the context of the improvisation. Gratuitous references to sexual elements or very bad taste are also antics.
3. Cliché: A player repeats a scene or story that has been seen elsewhere. The abusive reuse of a character already seen during the tournament is also a cliché.
4. Confusion: A team or a player loses the thread of the story. The story no longer makes sense and its flow is disrupted.
5. Dropping out: A player loses concentration and goes out of character.
6. Lack of listening: A player forgets elements of the story such as the names of the characters or where he/she is located.
7. Illegal number of players: The team sends more (or less) players than required.
8. Failure to follow the theme/category: The team plays without regard to the theme or category given by the referee.
9. Refusal of character: A player forgets his/her character on the way.
10. Delay of game: A team is late in starting an improvisation when the whistle signals the end of the cocus, when a player prevents the situation from progressing, when the game is slowed down by an inappropriate intervention or when a captain stretches out his requests for explanations.
11. Rudeness: A player refuses to cooperate with the other players, imposes a character or ideas on another player, or physically abuses a player.
12. Illegal procedure: A huddle goes on beyond the time allowed; there is communication between the bench and the players in play; there is discussion on the bench of the team not playing.
13. Misconduct (Major Penalty): A player causes major disruption to the performance or engages in unsportsmanlike conduct. As this is a major penalty, the player is automatically ejected.
14. Expulsion: Any player who has received two minor penalties or one major penalty in the same game will be expelled until the next game. The expulsion will erase the player's penalty points if they have not already been deducted.



Categories

1. Free: Players can be inspired by whatever they want to create their improvisation. They must however stay within the physical limits of the game.
2. In the manner of : Players are inspired by the chosen subject (horror movie, American soap, children's story, etc.) to do an improvisation in its own way.
3. Imposed props: The players use the prop imposed by the referee. The use of the object must be different from that of real life.
4. Singing: The players sing. The tune of the song can be taken from an existing work.
5. Exaggeration: The improvisation takes place in three stages. First, a normal improvisation is played. A second improvisation slightly exaggerates the story of the first. Finally, a third improvisation REALLY EXAGGERATES the first story.
6. Shootout: A player is given the title of his or her improvisation just before playing it.
7. American Dubbing: Players dub the voices of other players on the ice; players on the ice are not allowed to speak.
8. Narration: One player tells the story to the audience; the other players tell the story under the direction of the narrator, but they may also speak.
9. Chase: One team begins the improvisation. When the whistle blows, the team freezes to let the other team finish the story.
10. Quick change: When the referee blows the whistle, the players must take their last sentence and change it completely.
11. Accelerated: The same improvisation is played in 2 minutes, in 1 minute and in 30 seconds.
12. Rhyme: Players rhyme (or make a serious effort to do so).
13. Videoclip: The referee forces a song or piece of music on the players.
14. Videoway: Three duet improvisations are played alternately (V1, V2 and V3). The goal is to
The goal is to create different skits according to the situation imposed.
15. Zapping: When the referee blows the whistle, the players must take their position and start a new improvisation.



16. Referee's category: The referee may impose on the players a category that is rarer than those already defined. This category will be given in due course.

Tournament

Qualification

During the qualifying round, the twelve (12) delegations will be separated by draw into two pools and each delegation will play three games (these games will also be drawn). The top two teams from each pool will advance to the semi-finals. The ranking will be based on wins, differential (number of improvisations won) and penalties received.

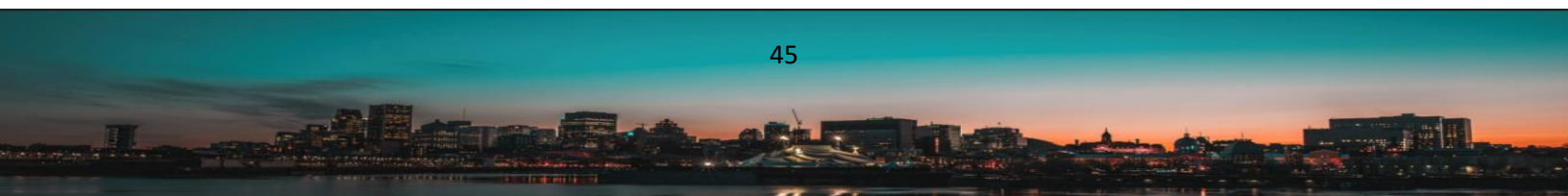
- A win is worth 2 points;
- A loss in overtime is worth 1 point;
- A loss in regulation time or by forfeit is worth no points.

In case of a tie, there will be six shoot-out improvisations (three on each side) to decide the winning team.

Finals

There will be four games on finals night: two semi-finals, a bronze final and a final.

In the event of a tie, there will also be shootout improvisations to decide the winning team.



4. Sports Competitions, presented by l'Association étudiante de Polytechnique (AEP)



4.1 Sport 1 – Kinball (indoor sport #1)

Jeu du gros ballon

Teams

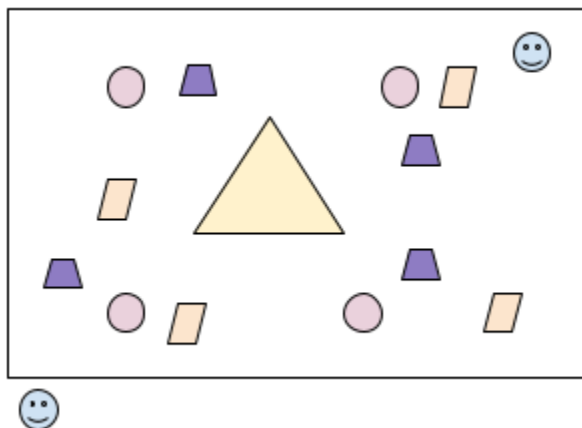
Four teams of four delegates.

Object of the game

The aim of this sport is for the team whose name is called to catch the ball before the ball touches the ground. The team that catches the ball hits it back to another team and the play continues as long as no faults are committed.

Field

The game takes place in a standard level gym.



Caption

- Pink team
- ▲ Yellow team
- ▭ Orange team
- ▤ Purple team
- 😊 Referees and scorers

Period

Game of twenty minutes.

Rules

- The team with the ball will determine which opposing team will receive it. The player must shout “Jeux de génie” followed by the name of the university of one of the opposing teams. The ball must be thrown with both hands;
- The ball must have an ascending or horizontal trajectory and must be hit at a minimum of two-meter distance;
- The team whose name is called must control the ball before it hits the ground. It can be done with any part of the body;
- If only one player touches the ball at the reception, he can move to the members of his team. The ball can be transported as long as only two players touch it. Ten seconds are allowed to get the ball back;
- All members of the same team have to be in contact (with both hands) underneath the ball before the serve. Five seconds are allowed to hit the ball.

Scoring

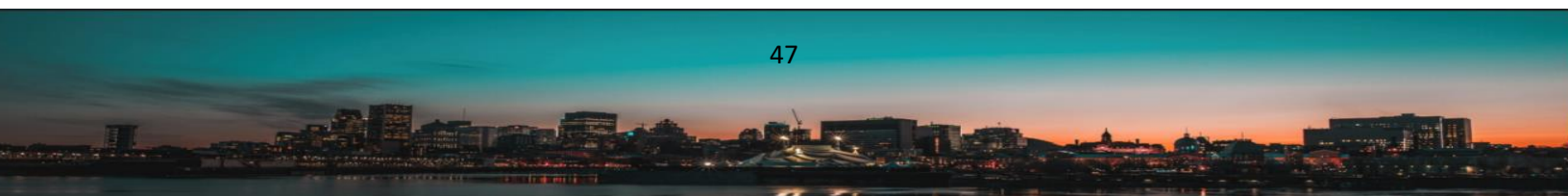
Points will be given when :

- A team fails to catch or control the ball before it touches the ground;
- A team faults, a point is awarded to the other teams.

Fouls

Fouls are punished when :

- The player hits the ball directly out the field of play or aims any object in the gym;
- The ball has a downward trajectory;
- The ball isn't hit at a minimum of two-meter distance;
- A player hits the ball twice in a row;



- The player forgets to say “Jeux de génie” before saying the name of the offensive team;
- The ball isn’t in contact with all the players of the team before the serve.

4.2 Sport 2 – Acro-gym (indoor sport #2)

Faut que ça swing

Teams

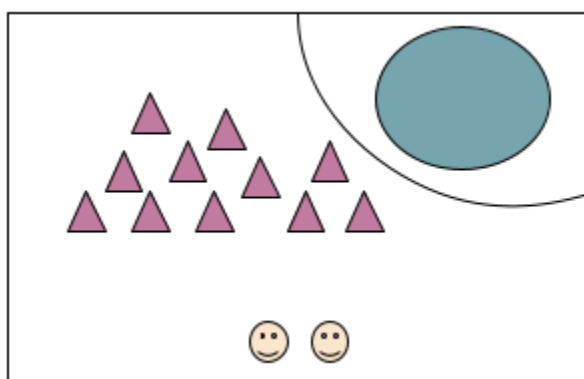
Ten teams of ten delegates.

Object of the game

A team will be given a list of acrobatic figures, worth a number of points according to their complexity. Each delegation will have to perform a choreography with collective acrobatic figures. The aim of this sport is thus to get as many points as possible.

Field

The game takes place in a standard level gym.



Caption

- Your friends <333
- ▲ Pink team
- 😊 Referees and scorers

Period

A four-hour preparation will be provided for the ten-minute presentation.

Scoring

Points will be given when :

- The team will correctly perform a collective acrobatic figure;
- The level of originality and the music chosen will be considered as adequate.

4.3 Sport 3 – Surprise

Surprise!

4.4 Sport 4 – Quidditch (water sport)

Des balais et des hommes

Teams

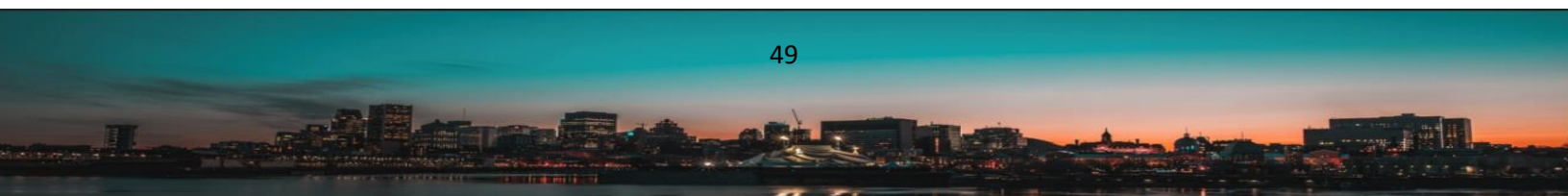
Two teams of seven delegates.

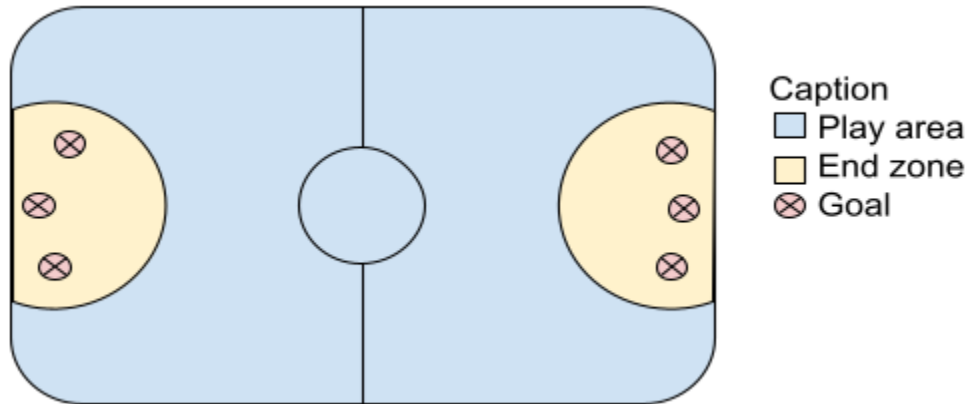
Object of the game

The game features two teams, playing with special balls and moving in the water with deluxe foam noodles (which serve as a broom). These teams compete against each other for the most points at the end of the game.

Field

The game takes place in the swimming pool (diving area).





Period

Game of twenty minutes.

Rules

- Among the seven players, there are :
 - One keeper who is responsible for protecting the three hoops serving as goals;
 - Two beaters who send the players from the opposing team back to their goal zone, with the two yellow balls;
 - Three chasers whose role is essentially to try and keep possession of the red ball and score a goal by throwing it through one of the opponent's three hoops.
- At the beginning of the game, the balls are in the middle of the pool and the players in the end zone. When the referee says "*À vos spaghettis*", the players go and catch the ball corresponding to their roles. The game begins;
- The chasers take the red ball and start the game as the beaters fight for possession of the yellow ones;
- When there's a goal, a shot in the direction of the hoops or when the ball hits the water, the ball goes to the opposing team;
- It is possible to intercept the red ball during a pass;
- When a chaser scores a goal, his team wins ten points;

- If a player is hit with a yellow ball by a batter's throw, the player must return to the end zone before play resumes.

Scoring

Points will be given when :

- One of the two teams throws the red ball successfully through one of the three hoops;
- One seeker grabs the opposing team's green scarf.

Fouls

Fouls are punished when :

- A player tries to take the ball from the hands of another player;
- A player aims at the head of another player with a yellow ball;
- A player doesn't respect the end zone, where only the goalkeeper is allowed to stay.

*A foul is punished by returning the ball to the opposing team.

4.5 Sport 5 – Ultimate frisbee-flag (outdoor sport)

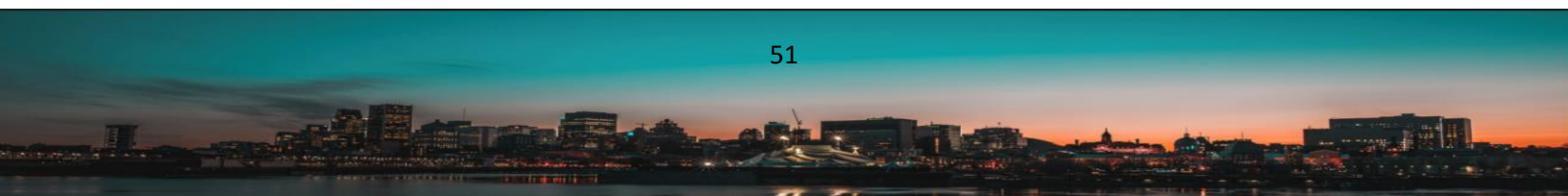
Le disque ultime

Teams

Two teams of nine delegates.

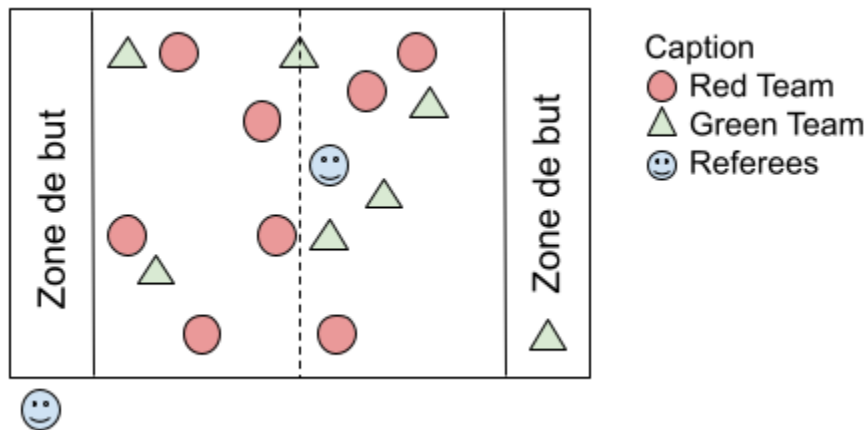
Object of the game

The main goal is to score the most points with the disc in the goal area. The team that will be able to score the most points in 16 minutes wins. In the event of a tie, the next team that scores a point, wins (a draw will determine who will start with the disc).



Field

The game is played on an outdoor soccer field (7 vs 7). Goal areas at each end of the field will be marked with cones.



Period

A sixteen-minute game (two-half eight minutes with a half-time of four minutes).

Rules

- Among the seven players, there are :
 - A player, called the Laurent Duvernay-Tardif, who will wear flags and have advantages over other neutral players on the team;
 - Six neutral players, whose mission will be to score points in the opposing zone and remove the player's flags;
 - Two players who will serve as a change.
- At the beginning of the game, each point starts when each team is lined up on the line in front of the goal area they are defending. The defensive team throws the disc to the offensive team;
- The disc can be launched in all directions by completing a pass to a teammate. Players cannot run when they have possession of the disc except Laurent Duvernay-Tardif, but they can finish their race move, without exaggeration. The player in possession of the disc (thrower) has ten seconds to throw the disc. He must always have the same point of support on the ground. The

defensive player is at 1 meter covering the thrower (marker) then counts the delay out loud. If the deadline is not met, the disc changes teams;

- When a pass is not completed (e.g. the disc is out of bounds, slipped, blocked or intercepted), the defensive team takes possession of the disc and then becomes the offensive team. When a player runs with the disc and it is not allowed, the defensive team takes possession of the disc as well;
- In each team, a player will have the opportunity to run in possession of the disc. This player, aka Laurent Duvernay-Tardif, will carry «flags» around his waist. This player has the right to a single race when in possession of the disc (e.g. he cannot catch the disc, run, stop and start running again). He must make a pass and receive a new pass in order to run again. When he is in the race and has his flag removed around his waist, possession of the disc passes to the other team. However, when he stops his running movement in order to make a pass, he cannot have his flags removed. He becomes a neutral player and the 10-second count begins.
- Reserve players can replace players on the field only after each scored point (the game starts again after each point);
- When a team makes a point in the opposing goal area, that area becomes their area to defend and the engagement takes place from there.

Scoring

Points will be given when :

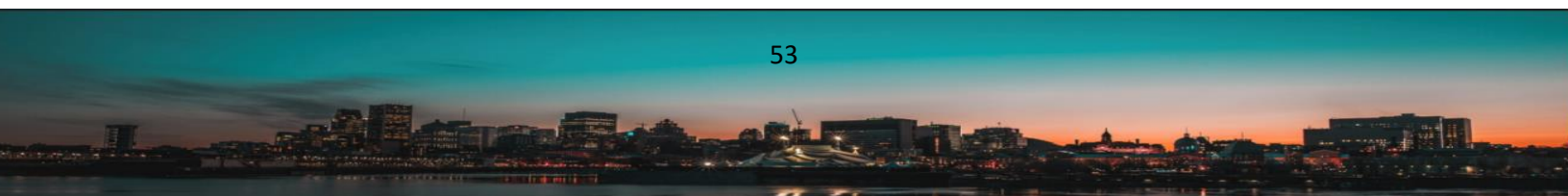
- The offensive team catches a pass in the opposing goal area (one point). *

*However, the player with flags (Laurent) cannot score points. To make a point, the disc must be passed to a neutral player in the goal area. Otherwise, this point will not be counted in the final score.

Fouls

Fouls are punished when :

- There is physical contact. No contact is allowed: interference and blockages are prohibited. The team that did not make the mistake then has the right to move five big steps towards the goal area. If they arrive in the goal area then it is considered a point;
- When a team makes more than three mistakes, they lose their Laurent Duvernay-Tardif.



5. Organizing Committee

The Organizing Committee of the Engineering Games 2021+1 sincerely thanks you for the special attention you have given to this document. We are extremely pleased to have you join us in the epic adventure of this 31st and memorable edition of the Quebec Engineering Games. If you have any questions or comments, please do not hesitate to contact our organization. We will be happy to answer you!



Camille Lalancette - Présidente

presidence@jeuxdegenie.qc.ca

Bruno Bousquet - VP Finances

finances@jeuxdegenie.qc.ca

Charles-Étienne Joseph - VP Compétitions

competitions@jeuxdegenie.qc.ca

Pierrick Arsenault - VP Machine

machine@jeuxdegenie.qc.ca

Megann Thériault - VP Communications

communications@jeuxdegenie.qc.ca

Simon Fortier - VP Logistique

logistique@jeuxdegenie.qc.ca

Catherine Dumas - VP Partenariats

partenariats@jeuxdegenie.qc.ca

Benjamin Turgeon – Adjoint aux partenariats

Justin Twarabimenye – Chef Parrain

Jeux de génie du Québec

1801 Avenue McGill College 6e étage, Montréal, QC H3A 2N4

